Service Manual

Lexmark™ 6300 Series
All-In-One

4416-XXX

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- The maintenance information for this product has been prepared for use by a professional service person and is not intended to be used by others.
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- Le démontage et l'entretien de ce produit pouvant présenter certains risques électriques, le personnel d'entretien qualifié devra prendre toutes les précautions nécessaires.

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- 有些零件的安全功能可能不明显。因此，所替换零件的性能一定要与原有的零件一致。

Preface

This manual contains maintenance procedures for service personnel. It is divided into the following chapters:

1. **General information** contains a general description of the All-In-One and the maintenance approach used to repair it. Special tools and test equipment are listed, as well as general environmental and safety instructions.
2. **Diagnostic information** contains an error indicator table, symptom tables, and service checks used to isolate failing field replaceable units (FRUs).
3. **Diagnostic aids** contains tests and checks used to locate or repeat symptoms of All-In-One problems.
4. **Repair information** provides instructions for making All-In-One adjustments and removing and installing FRUs.
5. **Locations and connectors** uses illustrations to identify the connector locations and test points on the All-In-One.
6. **Preventive maintenance** contains the lubrication specifications and recommendations to prevent problems.
7. **Parts catalog** contains illustrations and part numbers for individual FRUs.

Definitions

Note: A note provides additional information.

Warning: A warning identifies something that could damage the product hardware or software.

CAUTION: A caution identifies something that could cause you harm.

1. General information

The Lexmark™ 6300 Series (4416-XXX) All-In-One features an electro-mechanical color scanner, printer, and copier that creates characters and graphics by composing programmed patterns of ink dots using a printhead and liquid ink. The printhead uses small heater plates and nozzles to control ink flow and the formation of characters on the print media. The printhead assembly and ink supply are combined into a single-unit print cartridge available as a customer replaceable supply item. Dual printheads provide color and true black printing without changing printheads. The number and size of inkjets or nozzles in the printhead determines the overall quality and capability of the printer. The black print cartridge has a total of 640 nozzles and installs on the left. The color cartridge has a total of 480 nozzles and installs on the right. The photo cartridge has a total of 480 nozzles and installs on the left. The All-In-One is capable of printing in two directions from either print cartridge.

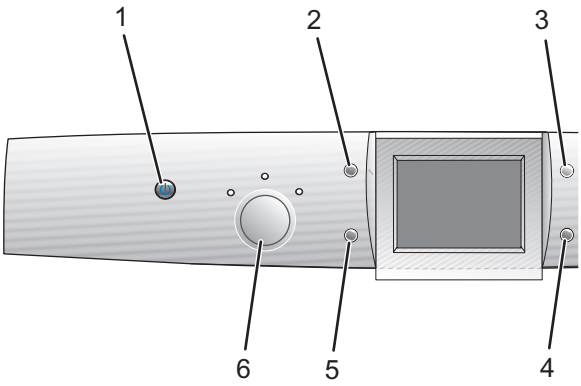
Power consumption

- Printing — 14.1 watts
- Idle — 9.7 watts
- Sleep — 8.0 watts

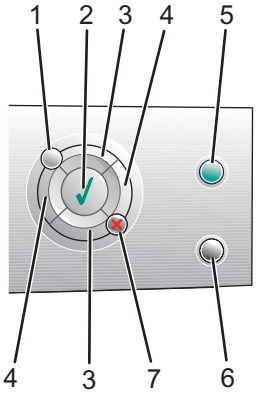
Scanner specifications

Scanner Type	Flatbed, CIS
Scan Modes	**True Color:** • 48 bit internal • 24 bit external **Gray Mode:** • 16 bit internal • 8 bit external **Text/Line Art:** • 1 bit per pixel
Scan Method	Single pass
Scan Area	• 8.5 x 11.7 inches • 215 x 297 mm
Scan Resolution	• Horizontal: 1200 dpi • Vertical: 2400 dpi • Interpolated: 19,200 x 19,200

Control panel



	Buttons	Functions
1	Power	Turns the All-In-One on and off.
2	Rotate	Rotates the image on the control panel display 90 degrees.
3	Page Preview	Allows you to preview an image before it is printed, scanned, or copied. **Note:** Multiple previews can be made before scanning. In Photo Card mode, you can preview multiple photos. Use the arrow buttons to scroll through the photos.
4	Resize	In Copy mode: • Enlarges or reduces an image. In Photo mode: • Sets the image size of photos. • While cropping, this button allows you to zoom in or zoom out on a photo.
5	Number of Copies	Specifies the number of copies to print while in the Copy or Photo mode.
6	Mode	This button selects Copy, Scan, or Photo mode. **Note:** The mode is selected when the light is on..



	Buttons	Functions
1	Menu	Displays the menu for the selected mode.
2	Select	• Chooses a menu option. • In Photo Card mode, this button selects or deselects a photo to be printed.
3	Up Arrow or Down Arrow	• Allows you to scroll through menu options. • Changes the selected area when cropping an image. • In Photo mode, these buttons allow you to skip forward or backward through the memory card or flash drive to view every tenth picture on the control panel display. • In copy mode, these buttons change the blank paper size.
4	Left Arrow (-) or Right Arrow (+)	• Changes settings on a submenu item. • Displays the previous or next picture on a memory card or flash drive. • Increases or decreases the number of copies. • When cropping an image, these buttons change the selected area.

	Buttons	Functions
5	Color	Starts a black-and-white copy, scan, or photo job. **Note:** Make sure the mode you want is selected. In order for a photo print job to start, a memory card or flash drive must be inserted, or a digital camera must be connected to the printer. If there is DPOF information on the inserted memory card, all the specified photos print.
6	Black	Starts a color copy, scan, or photo job. **Note:** Make sure the mode you want is selected. In order for a photo print job to start, a memory card or flash drive must be inserted, or a digital camera must be connected to the printer. If there is DPOF information on the inserted memory card, all the specified photos print.
7	Cancel	• Cancels a copy, scan, or print job. • In Photo mode, this button clears the selected preview photo from the list. • Cancels all photo selections. Press **Cancel** twice, and then follow the instructions on the control panel display. • Returns to the default copy settings. From the Copy mode screen, press **Cancel** twice.

Navigating the control panel menus

1. Press **Mode** to select the Copy, Scan, or Photo Card mode.
2. Press **Menu** to open the menu for the selected mode.
3. Press the **Up** and **Down Arrows** to scroll through the menus.
4. Press the **Left** and **Right Arrows** to scroll through the options list of the highlighted menu.
5. Press **Select** when the menu item you want appears.

Maintenance approach

The diagnostic information in this manual leads you to the correct field replaceable unit (FRU) or part. Use the symptom tables, error code tables, service checks, and diagnostic aids to determine the symptom and repair the failure.

After you complete the repair, perform tests as needed to verify the repair.

Tools required for service

- Flat-blade screwdriver
- #1 Phillips screwdriver
- #2 Phillips screwdriver
- Spring hook
- Analog or digital multimeter

Acronyms

ADF	Automatic Document Feeder
ASF	Automatic Sheet Feeder
B/M	Bill of Material
CCD	Charge Coupled Device
CIS	Contact Image Sensor
DBCS	Double Byte Character Set
DPOF	Digital Print Order Format
DPS	Direct Print Service
EOF	End of Form
ESD	Electrostatic Discharge
FFC	Flexible Flat Cable
FPC	Flat Printhead Cable
FRU	Field Replaceable Unit
HVPS	High Voltage Power Supply
KB	Kilobyte
KBps	Kilobytes per second (usually as Kbps)/KiloBytes per second (usually as KBps)
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
LVPS	Low Voltage Power Supply
MPF	Multipurpose Feeder
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
POR	Power-On Reset
POST	Power-On Self Test
ROM	Read Only Memory
SBCS	Single Byte Character Set
USB	Universal Serial Bus
V ac	Volts alternating current
V dc	Volts direct current
ZIF	Zero Insertion Force

2. Diagnostic information

Use the error code tables, POST symptom table, symptom tables, and service checks in this chapter to determine the All-In-One failure.

Start

Power-On Self Test (POST) sequence

Press the **Power** button to turn on the All-In-One.

1. The Power, Copy, Scan, and Photo Card lights come on.
2. **Lexmark** appears on the LCD.
3. The Copy, Scan, and Photo Card lights go through a flashing sequence, and then the Copy light stays on.
4. The carrier moves off the maintenance station, and then returns.
5. The scanner (CIS) moves from the home position, and then returns.

Note: After the sequence above, the Power light, Copy light, and LCD remain on.

If the All-In-One completes POST with no errors, go to **"Symptom tables" on page 2-9**, locate the symptom, and take the appropriate action.

If the All-In-One does not complete POST, go to the **"POST symptom table" on page 2-7**, locate the symptom, and take the appropriate action.

Error codes

Catastrophic errors

In this state, the All-In-One is in an error mode such that operation cannot continue. These errors affect the entire All-In-One. The LCD is on and operating. An error message is displayed on the LCD. The All-In-One accepts data, but discards it and does not respond.

Catastrophic error list

Code	Name	Description	Action
0000	NVRAM R/W	There was an error detected in reading or writing NVRAM.	Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, clean the NVRAM by pressing the **Up Arrow** button and **Menu** button simultaneously. The Self Test menu appears; select **Clean NVRAM**. If the error continues, replace the system board.
0001	Memory Failure	Unable to initialize memory	Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, clean the NVRAM by pressing the **Up Arrow** button and **Menu** button simultaneously. The Self Test menu appears; select **Clean NVRAM**. If the error continues, replace the system board.

Code	Name	Description	Action
0002	Hardware Failure	General hardware failure (unable to localize failure to a specific system)	Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, clean the NVRAM by pressing the **Up Arrow** button and **Menu** button simultaneously. The Self Test menu appears; select **Clean NVRAM**. If the error continues, replace the system board.
0003	ROM Checksum Error	Corrupted ROM	Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, clean the NVRAM by pressing the **Up Arrow** button and **Menu** button simultaneously. The Self Test menu appears; select **Clean NVRAM**. If the error continues, replace the system board.

Code	Name	Description	Action
0200	Flash Programming	Unable to program flash memory	Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, clean the NVRAM by pressing the **Up Arrow** button and **Menu** button simultaneously. The Self Test menu appears; select **Clean NVRAM**. If the error continues, replace the system board.

Non-catastrophic errors

In this state, an error has occurred, but the All-In-One can continue to operate. You may need to intervene using a button press, or the machine may time out and return to the **Error! Reference source not found** state, depending upon the error. The All-In-One will continue to accept and respond to data until its buffers are full. In general, the entire device is in the non-catastrophic error state, but only the logical device with the error changes its behavior.

Non-catastrophic error list

Code	Name	Description	Action
1003	Paper Calibrate Failure	The DC paper feed system fails to initialize or calibrate.	Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, check for voltage (approximately 5 V dc) on pin 2 of J15. If okay, verify voltage at the Encoder card as well (same pin at Encoder card end). If there is no voltage at J15-pin 2, replace the system board. If there is no voltage at the Encoder card end, but voltage is okay at J15, replace the print engine.
1102	Incorrect Printhead	The printhead ID is not valid.	Replace the print cartridge(s).
1201	Print Incomplete	The print carrier stopped before all of the data was used.	Resend the print job.

Code	Name	Description	Action
1202	Data Error	Incorrect data has been sent from the host computer to the printer.	Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, replace USB cable. If the error continues, replace the system board.
1203	Printhead Short	Short test detected a short-circuit in the printhead.	Replace print cartridge(s).
1204	Printhead Programming	The firmware is unable to program a pseudo-random printhead ID.	Replace print cartridge(s).
1205	Mono TSR Error	A problem was detected in the mono TSR circuit. The firmware cannot determine printhead temperature.	Replace print cartridge(s).
1206	Color TSR Error	A problem was detected in the color TSR circuit. The firmware cannot determine printhead temperature.	Replace print cartridge(s).

Code	Name	Description	Action
1207	Paper System Error	A paper system control failure was detected.	Clear the paper path. Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, clean the NVRAM by pressing the **Up Arrow** button and **Menu** button simultaneously. The Self Test menu appears; select **Clean NVRAM**. If the error continues, replace the system board.
2200	Scan Carrier Stall	The scan carrier has stalled.	Unplug the All-In-One; wait a few seconds, then plug the All-In-One back in and turn the power on. If the error remains, check all connections to the scanner. If connections are okay and the error continues, replace the system board.

POST symptom table

Symptom	Action
Power, Copy, or Scan lights do not come on; motors do not operate.	Go to the **"Power service check" on page 2-16**. If okay, go to **"Control panel problems" on page 2-9**.
The paper feed gears do not turn.	Go to the **"Paper feed service check" on page 2-15**.

Symptom	Action
• The carrier does not move. • The carrier slams the side frame.	Go to the **“Carrier transport service check” on page 2-12**.
• The CIS does not move. • The CIS lamp does not come on.	Go to the **“CIS module assembly service check” on page 2-13**.

Symptom tables

Locate the symptom in the following tables and take the appropriate action.

Carrier transport problems

Symptom	Action
• No carrier movement • Slow carrier movement • Carrier stops. • Carrier slams the side frame.	Go to the **"Carrier transport service check" on page 2-12**.

Maintenance station problems

Symptom	Action
• Fails to cap the printheads • Fails to clean the printheads	Go to the **"Maintenance station service check" on page 2-14**.

Control panel problems

Symptom	Action
• Buttons do not work. • LCD does not display.	If the LCD, buttons, or lights fail, check the control panel cable connection J11 on the system board, and then run the **"Power-On Self Test (POST) sequence" on page 2-1**. If the problem remains, replace the scanner module assembly. Go to **"Scanner module assembly removal" on page 4-8**. If the problem continues, replace the system board. Go to **"System board and sensor media removal" on page 4-20**.

Printer communication problems

Symptom	Action
Not able to print Test Page	Check the USB cable and system board cable connections. If connections are okay, replace the system board. Go to **"System board and sensor media removal" on page 4-20**.

Scanner problems

Symptom	Action
• The CIS does not move. • The lamp does not come on.	Go to the **"CIS module assembly service check" on page 2-13**.
• Scanned images are faded, or colors are dull, blurry, or fuzzy. Images are slanted or crooked and the straight lines in the image appear to be jagged or uneven. • Blank copies	Go to the **"Scan and copy quality service check" on page 2-19**.

Paper feed problems

Symptom	Action
• Fails to pick up paper • Picks up more than one sheet of paper • Picks up paper but fails to feed • Paper jams • Paper fails to exit • Noisy paper feed • Envelopes fail to feed • Paper skews	Go to the **"Paper feed service check" on page 2-15**.

Power problems

Symptom	Action
There is no power in the All-In-One; motors do not operate.	Go to the **"Power service check" on page 2-16**.

Print quality problems

Symptom	Action
• Voids in characters • Light print • Prints off the page • Fuzzy print • Carrier moves but nothing prints • Printhead dries prematurely • Colors print incorrectly • Vertical alignment off	Go to the **"Print quality service check" on page 2-17**.

Service checks

Carrier transport service check

FRU	Action
• System Board • Carrier Transport Motor	Check the carrier transport motor connector J18 on the system board. If it is connected, check for approximately 30 V dc on pins 1 and 2 or at the wire connections located on the rear of the carrier transport motor. If voltage is incorrect, replace the system board. Go to **"System board and sensor media removal" on page 4-20**. If voltage is correct, check the carrier transport motor for binds or a loose motor pulley. A noisy or chattering motor or a motor that fails to turn can be caused by: • A broken circuit or short-circuit in the motor • A bind in the carrier transport mechanism Disconnect the carrier transport motor cable J18 from the system board and check for 0 to 10 ohms between the two wires on the carrier transport motor. If the reading is incorrect, replace the print engine. Go to **"Print engine removal" on page 4-16**.
Carrier Guide Rod	Clean and lubricate the carrier guide rod. Lubricate the rod and the carrier rod bearing surfaces with grease P/N 40X0179.
Encoder Strip	Verify that the encoder strip is installed correctly and is free of grease or dirt. If the encoder strip is not installed correctly, it can cause the carrier to slam against the side frame. If the encoder strip and all connections are okay, but the carrier slams the side frame, replace the system board. Go to **"System board and sensor media removal" on page 4-20**.

FRU	Action
Carrier Assembly	Check the following parts for wear or damage: • Printhead cartridge latch • Latch spring • Carrier • Printhead cables Reseat the printhead cables in the system board. If any of these parts are defective, replace the carrier assembly. Go to **"Carrier assembly removal" on page 4-22**. Check the gold-plated contacts located on the inside (rear) of the printhead carrier for dirt, wear, and damage. Use a clean, damp cloth to clean the contacts. Let the contacts dry completely. If the gold contacts are damaged, replace the carrier assembly. Go to **"Carrier assembly removal" on page 4-22**. If the symptom remains, replace the system board. Go to **"System board and sensor media removal" on page 4-20**.

CIS module assembly service check

FRU	Action
CIS Module Assembly	If the CIS module does not move, check connector J17A on the system board. If the connection is okay, replace the system board. Go to **"System board and sensor media removal" on page 4-20**. If the lamp does not come on as the CIS module assembly is scanning or moving, check connector J16 on the system board. If the connection is okay and the lamp still does not work, replace the scanner module assembly. Go to **"Scanner module assembly removal" on page 4-8**.

Maintenance station service check

The maintenance station has three functions:

1. Wipes (cleans) the printhead nozzle plates
2. Provides a place for printheads to fire all nozzles, keeping them clean for printing
3. Seals the printheads when they are not being used to prevent the nozzles from drying

FRU	Action
Maintenance Station Assembly	As the carrier moves to the left over the maintenance station, a slot on the bottom of the carrier engages a tab on the sled of the maintenance station, causing the caps to rise and seal the printheads. When the carrier moves to the right, it uncaps the printheads. The wipers clean the printhead nozzle plates as the carrier leaves the maintenance station. The wipers clean the printhead only when the carrier is moving to the left. After the cleaning operation is complete, a tab on the maintenance station engages a tab on the carrier, causing the wipers to lower. Loose or worn wipers cause degraded print quality. Check for loose or worn wipers. Loose or worn caps cause the printhead nozzles to dry and clog. Check for loose or worn caps. If any worn or broken parts are found, replace the maintenance station. Go to **“Maintenance station removal” on page 4-23**.

Paper feed service check

If the All-In-One does not have paper jam problems, continue with this service check. If the All-In-One has paper jam problems, examine the printer for the following before you begin the service check:

- Check the entire paper path for obstructions.
- Ensure there is not too much paper in the sheet feeder.
- Ensure the correct type of paper is being used.
- Check for static in the paper.

FRU	Action
• Paper Feed Motor • System Board	Run the **"Power-On Self Test (POST) sequence" on page 2-1**. A noisy or chattering motor or a motor that fails to turn can be caused by: • A broken circuit or short-circuit in the motor • A bind in the paper feed mechanism Disconnect paper feed motor cable J19 from the system board and check for approximately 5 ohms between the two wires on the paper feed motor. If the reading is incorrect, replace the print engine. Go to **"Print engine removal" on page 4-16**. If the reading is correct, check for approximately 30 V dc at connector J19 on pins 1 and 2. If the voltage is incorrect, replace the system board. Go to **"System board and sensor media removal" on page 4-20**. Although the paper feeds in one direction, the paper feed motor turns in two directions. If the paper feed motor turns in one direction only, replace the system board. Go to **"System board and sensor media removal" on page 4-20**. Binds in the paper feed motor or gear train can cause intermittent false paper jam errors. Remove the paper feed motor and check the shaft for binds. Also check for a loose or worn motor gear. If the gear is defective, replace the print engine. Go to **"Print engine removal" on page 4-16**.
Automatic Sheet Feeder Assembly	Check the pick roller for wear. If the pick roller is worn and causing a paper feed problem, replace the print engine. Go to **"Print engine removal" on page 4-16**.

FRU	Action
Midframe Assembly	Check the following for wear: • Small feed rollers • Large feed roller • Exit roller • Star rollers If any of the rollers are worn and causing a paper feed problem, replace the print engine. Go to **"Print engine removal" on page 4-16**.
End-of-Forms Flag and Spring	Check for binds or damage. If the flag or spring are defective, replace the print engine. Go to **"Print engine removal" on page 4-16**.

Power service check

FRU	Action
External Power Supply	Plug the external power supply into an electrical outlet. Check for 30 V dc. If the voltage is incorrect, replace the power supply.
• Printhead Cables • Paper Feed Motor • Carrier Transport Motor • Control Panel	Unplug the All-In-One. Check all connections on the system board and plug the All-In-One back in. Look for a symptom change. If the printhead cables are defective, replace the carrier assembly. Go to **"Carrier assembly removal" on page 4-22**. Check for broken circuits or short-circuits in the paper feed and carrier transport motors. If either motor is defective, replace the print engine. Go to **"Print engine removal" on page 4-16**. If the control panel LCD, buttons, or lights fail, check cable connection J11 on the system board. Then run the **"Power-On Self Test (POST) sequence" on page 2-1**. If the problem remains, replace the scanner module assembly. Go to **"Scanner module assembly removal" on page 4-8**. If the problem continues, replace the system board. Go to **"System board and sensor media removal" on page 4-20**.

Print quality service check

FRU/Problem	Action
Print Cartridges	Ensure that the All-In-One contains good print cartridges. Clean the print cartridge nozzles when: • Characters are not printing completely. • White dashes appear in graphics or printed text. • Print is smudged or too dark. • Vertical, straight lines are not smooth. • Color on print jobs are faded, or they differ from the colors on the screen. To clean the nozzles using the computer: 1. Load plain paper. 2. From the desktop, double-click the **Imaging Studio** icon**.** 3. Click the **Maintain/Troubleshoot** button. 4. Click **Maintenance**. 5. Click **Clean to fix horizontal streaks.** 6. Click **Print**. A page prints, forcing ink through the nozzles to clean the clogged nozzles. 7. Print the document again to verify that print quality has improved. If the print quality has not improved, clean the print cartridge nozzles up to two more times. To clean the nozzles using the control panel: 1. Load plain paper. 2. Press **Menu**. 3. Press the **Up Arrow** or **Down Arrow** until **`Clean Cartridges`** is highlighted. 4. Press **Select**. A page prints, forcing ink through the nozzles to clean the clogged nozzles. 5. Print the document again to verify that print quality has improved. If the print quality has not improved, clean the print cartridge nozzles up to two more times.

FRU/Problem	Action
Color print cartridge cross contamination	Be sure the print cartridge nozzle plate is clean. Clean with a soft cloth. If cross contamination occurs, check for: • Maintenance station wiper damage • Used tape on the printhead nozzle plate If the wiper is damaged, replace the maintenance station. Go to **"Maintenance station removal" on page 4-23**. **Note:** Do not retape the printhead nozzle plate.
Maintenance Station	Intermittent nozzle failures can be caused by worn parts in the maintenance station. If you find worn parts, replace the maintenance station. Go to **"Maintenance station removal" on page 4-23**.
Paper Feed	Ink smudging and smearing can be caused by paper problems or problems in the paper feed area. Check for: • Correct type of paper • Curled or wrinkled paper • Paper path obstructions • Feed roller wear or looseness • Worn gears or binds If the paper feed roller or gears are defective, replace the print engine. Go to **"Print engine removal" on page 4-16**.
Carrier Transport	Blurred print and voids can be caused by problems in the carrier transport area. Check the following: • Carrier transport belt for wear • Idler pulley parts for wear, damage, or looseness • Carrier guide rod for wear or dirt. If the rod is dirty, clean and lubricate it. The carrier to carrier frame engagement should be lubricated with grease P/N 40X0179. If the carrier transport belt is worn, replace the carrier assembly. Go to **"Carrier assembly removal" on page 4-22**. If the idler pulley parts are defective, replace the print engine. Go to **"Print engine removal" on page 4-16**.

FRU/Problem	Action
Alignment	Uneven vertical lines or characters not properly formed (jagged or rough) can be adjusted by performing the printhead alignment. To align the print cartridges using the computer: 1. Load plain paper. 2. From the desktop, double-click the **Imaging Studio** icon**.** 3. Click the **Maintain/Troubleshoot** button. 4. Click **Maintenance**. 5. Click **Align to fix blurry edges.** 6. Click **Print** to print an alignment page and to automatically align the cartridges. The All-In-One will prompt you to align the print cartridges when they are installed or replaced. To align the print cartridges using the control panel: 1. Load plain paper. 2. Press **Menu.** 3. Press the **Up Arrow** or **Down Arrow** until **`Align Cartridges`** is highlighted. 4. Press **Select** to print an alignment page.

Scan and copy quality service check

FRU/Problem	Action
• Scanned images are faded, or colors are dull, blurry, or fuzzy. • Images are slanted or crooked and the straight lines in the image appear to be jagged or uneven.	To check the brightness of a copy: 1. Load the document face down on the scanner glass. 2. Press **Mode** until Copy is selected. 3. Press **Menu**. 4. Press the **Up Arrow** or **Down Arrow** until **`Brightness`** is selected. 5. Press **Select**. 6. Press **Left Arrow** or **Right Arrow** to lighten or darken the copy. 7. Press **Select.** Clean the scanner glass when ink smudges, fingerprints, or dirt are apparent. Dampen a clean cloth with water and gently wipe the scanner glass clean. **Note:** Make sure all ink or corrective fluid is dry before placing a document on the scanner glass.

FRU/Problem	Action
Copies are blank or copy quality is poor.	If blank copies are found, make sure the original document is placed face down on the scanner bed. Check the print cartridges to see if they need to be cleaned or replaced. To check the Copy Quality settings: 1. Load the document face down on the scanner glass. 2. Press **Mode** until Copy is selected. 3. Press **Menu**. 4. Press the **Up Arrow** or **Down Arrow** until **`Copy Quality`** is selected. 5. Press **Select**. 6. Press **Left Arrow** or **Right Arrow** until the appropriate copy quality for the document appears. 7. Press **Select.**

3. Diagnostic aids

Self Test mode

To enter the Self Test mode, press the **Up Arrow** button and **Menu** button simultaneously. The LCD displays the Self Test menu screen when the Self Test mode is enabled. You can scroll through the test items by pressing the **Up Arrow** or **Down Arrow** buttons. To execute a test item, press the **Select** button.

Note: Press **Cancel** on any message screen to return to the Self Test menu.

The following are the Self Test menu selections:

1. USB Serial Number—To view the USB serial number, press and hold the **Up Arrow** button and **Menu** button simultaneously. This test allows the USB serial number to be activated or deactivated. If the USB serial number is activated, the serial number is displayed on a message screen for five seconds. The display then returns to the Self Test menu.
2. LCD/LED Button Test—Verifies the operation of the LCD, the illumination of the LEDs, and the functionality of the buttons on the control panel.
3. Media Card Test—Tests memory cards in accordance with on screen instructions.
4. External USB Test—Verifies a numbered list with the device attached to the external USB port (DPS port) directly through the USB. A **`Success`** or **`Failure`** message appears on the LCD.
5. Clean Nozzles—Fires all printhead nozzles. The maintenance station wipes them to help unclog/purge the nozzles. Prints the Nozzle Cleaning page, and then returns to the Self Test menu when finished.
6. NVRAM Dump—Prints the contents of the flash NVRAM and display then returns to the Self Test menu. Pressing Cancel during printing stops the job, ejects paper, and causes the display to return to the Self Test menu.
7. Clean NVRAM—Clears the non-protected area of the Flash-emulated NVRAM by restoring values to default or initializing the values to 0x00s or 0xFFs. When Clean NVRAM is selected, **`Clearing`** appears on the LCD. If the function ends successfully, a **`Success`** message appears.

8. SRAM Test—Verifies that all the address buses and data buses that connect to the SRAM area work correctly, and performs the read/write of data to the SRAM area with all the address buses and data buses. While checking, **Testing** appears on the LCD. Then a **Success** message appears for three seconds, or a **Failure** message appears until the Cancel button is pressed.
9. Media Sensor Test—The media sensor reads the current paper type. A message displays the type of paper. If no paper is detected, **None** appears on the LCD.
10. Last USB Connect Speed—Shows the status and connection speed of the USB connection.
11. Show Font—Displays all the characters of the font set in both white and dark gray. The Up Arrow and Down Arrow buttons allow you to navigate through the font set.

4. Repair information

This chapter explains how to make adjustments to the All-In-One and how to remove defective parts.

Warning: Read the following before handling electronic parts.

Handling ESD-sensitive parts

Many electronic products use parts that are known to be sensitive to electrostatic discharge (ESD). To prevent damage to ESD-sensitive parts, follow the instructions below in addition to all the usual precautions, such as turning off power before removing system board:

- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until you are ready to install the part into the machine.
- Make as few movements as possible with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture.
- Put the ESD wrist strap on your wrist. Connect the wrist band to the system ground point. This discharges any static electricity in your body to the machine.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch its pins. If you are removing a pluggable module, use the correct tool.
- Do not place the ESD-sensitive part on the machine cover or on a metal table; if you need to put down the ESD-sensitive part for any reason, first put it into its special bag.
- Machine covers and metal tables are electrical grounds. They increase the risk of damage because they make a discharge path from your body through the ESD-sensitive part. (Large metal objects can be discharge paths without being grounded.)
- Prevent ESD-sensitive parts from being accidentally touched by other personnel. Install machine covers when you are not working on the machine, and do not put unprotected ESD-sensitive parts on a table.
- If possible, keep all ESD-sensitive parts in a grounded metal cabinet (case).
- Be extra careful in working with ESD-sensitive parts when cold-weather heating is used, because low humidity increases static electricity.

Adjustments

The Lexmark Solution Center directs the user to perform the printhead t adjustments after replacing a print cartridge.

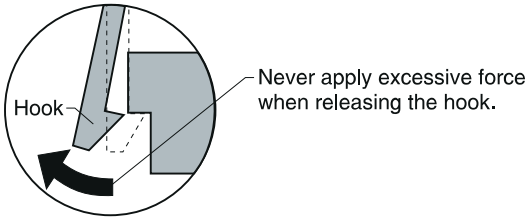
Removal procedures

The following procedures are arranged according to the name of the All-In-One part discussed.

CAUTION: Unplug the power cord before removing any parts.

Releasing plastic latches

Many of the parts are held in place with plastic latches. The latches break easily; release them carefully. To remove such parts, press the hook end of the latch away from the part to which it is latched.



Removals

General precautions on removals

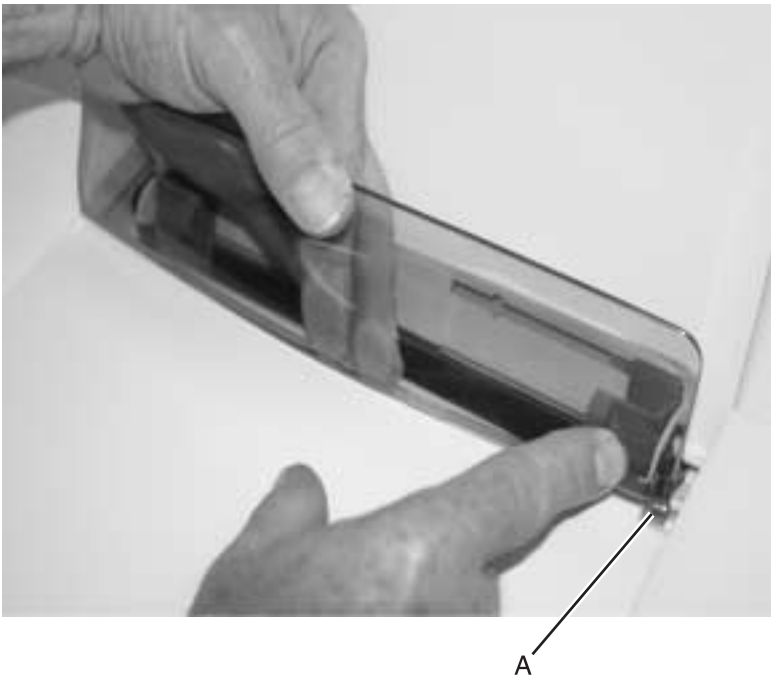
Use caution when disassembling and reassembling components. The close proximity of cables to moving parts makes proper routing a must. When components are removed or replaced, any cables disturbed must be replaced as closely as possible to their original positions. Before removing any component from the machine, be sure you note the cable routing.

When servicing the machine:

- Verify that documents are not stored in memory.
- Move the print cartridge to the far right to cap the nozzles.
- Unplug the power cord.
- Use a flat and clean surface.
- Use only authorized replacement parts.
- Do not force plastic parts.

Foreign object deflector with spring removal

1. Flex the deflector and remove tab (A) from the hole.



2. Remove the deflector and spring.

3. When reinstalling, be sure the spring goes back into hole (B).

Card reader access door removal

1. Press the tabs in the direction of the arrows.

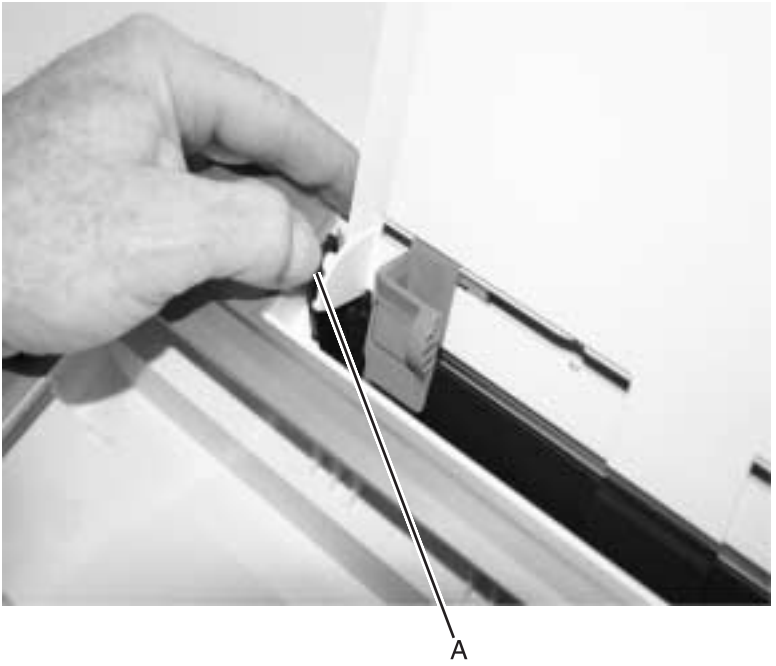
2. Lift and remove the door.

Control panel cover removal

1. Use your fingers to loosen the two control panel covers.
2. Lift and remove.

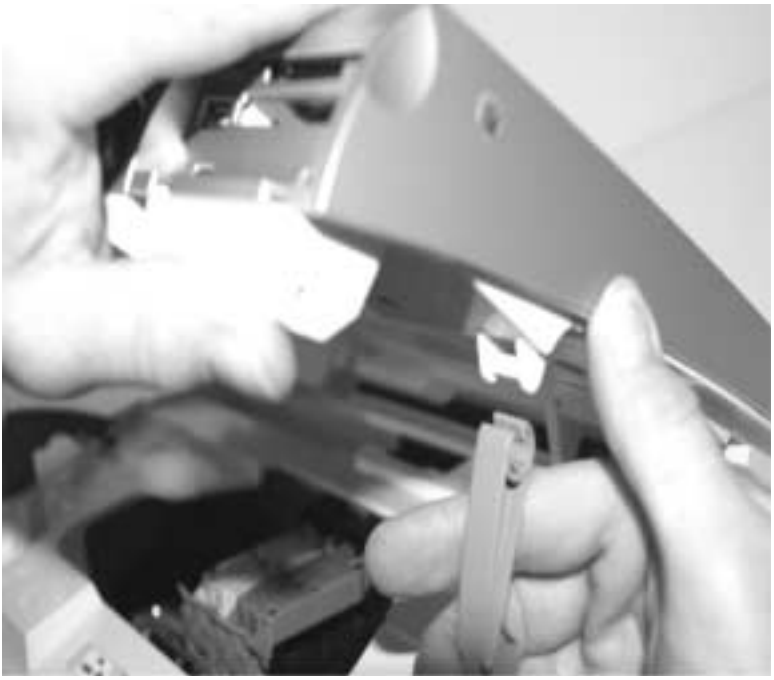
Scanner module assembly removal

1. Lift and remove the scanner lid.
2. Flex tab (A) to the left and remove the paper support.

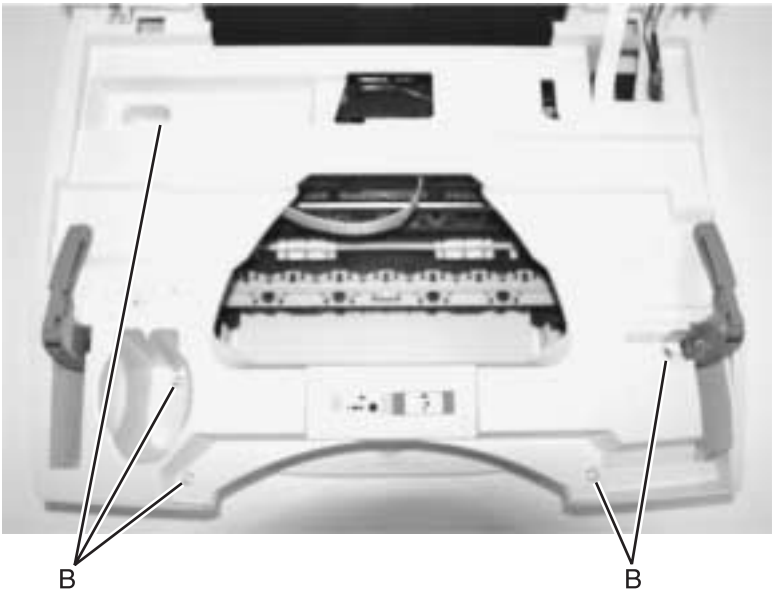


3. Lift the scanner module assembly until the risers extend.

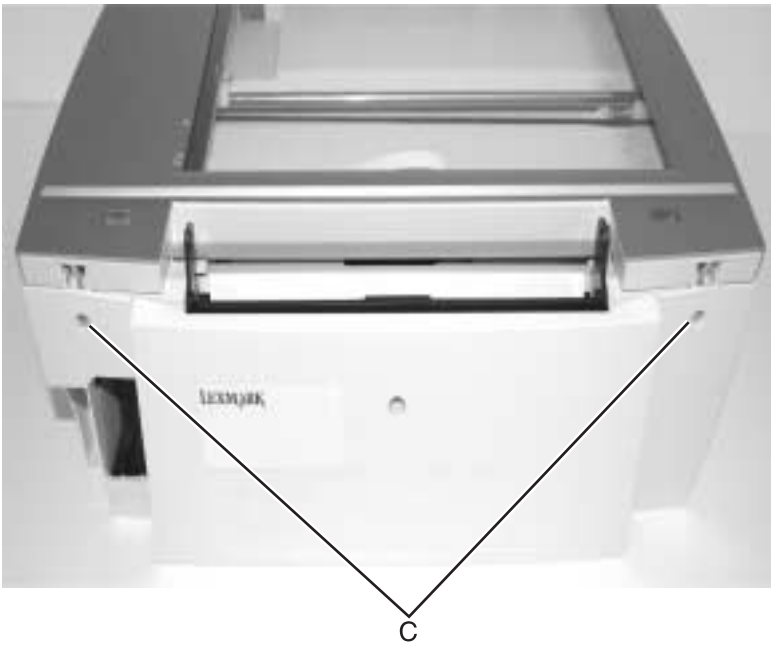
4. Unsnap the two scanner risers and lift the scanner module assembly.



5. Remove five screws (B) from the midframe cover.



6. Remove two screws (C) from the rear cover.



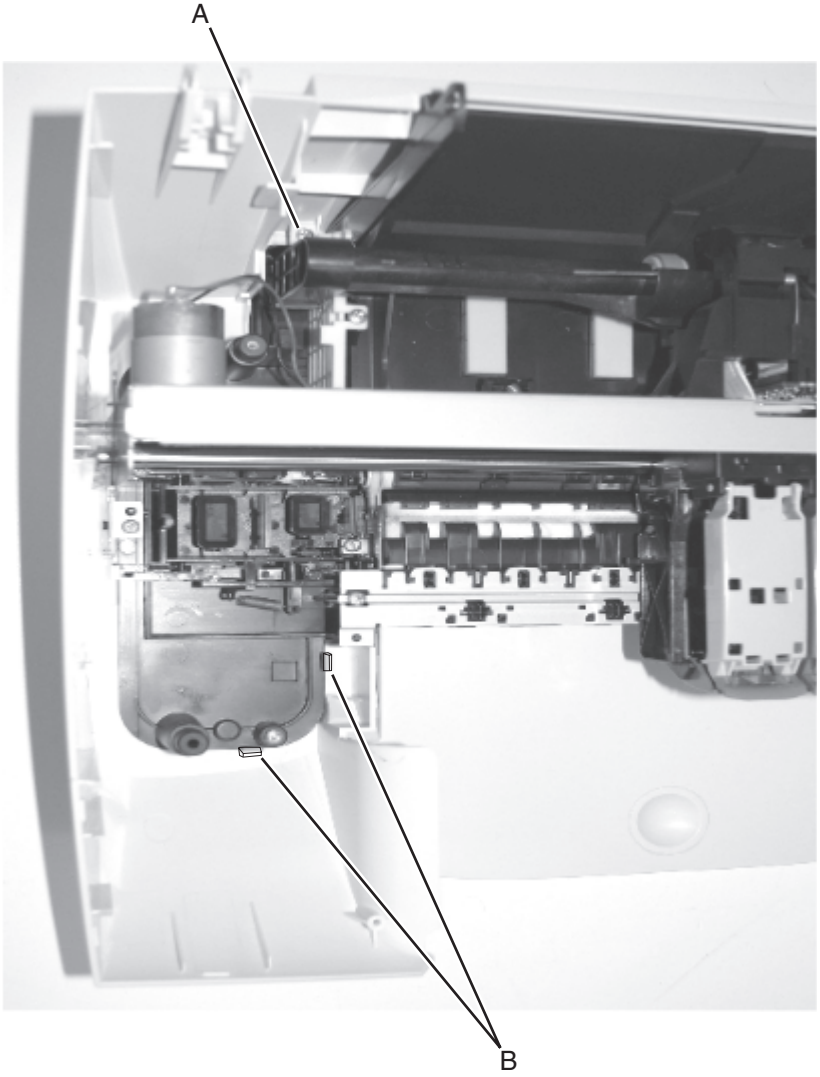
7. Unlatch and lift the midframe cover.

8. Unplug all cables from the system board.

9. Lift and remove the scanner module assembly and midframe cover.

Left cover removal

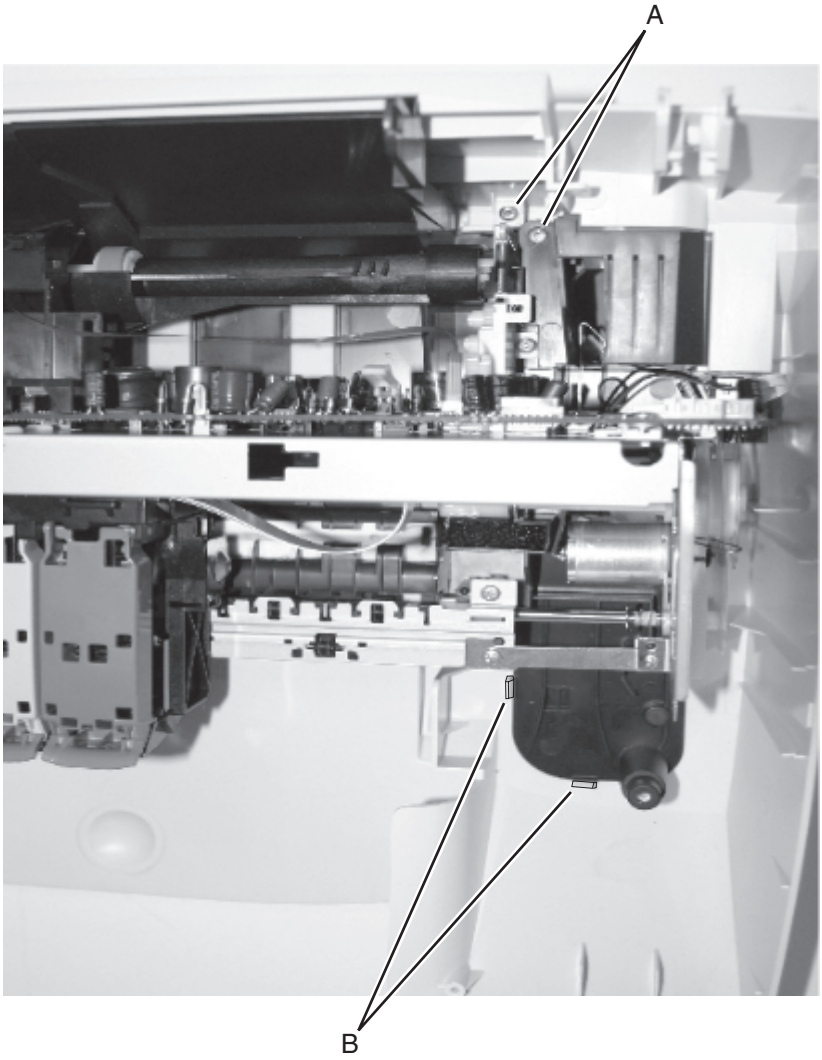
1. Remove the scanner module assembly and midframe cover.
2. Remove one screw (A) and release two latches (B).



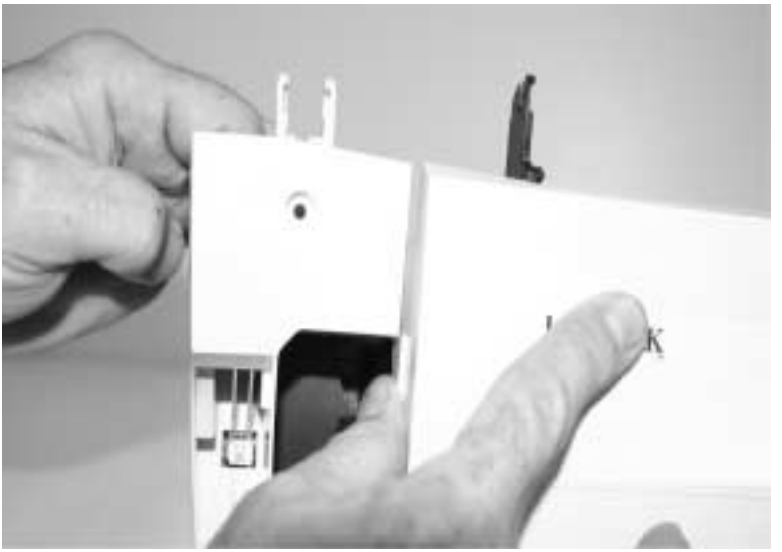
3. Remove the left cover.

Right cover removal

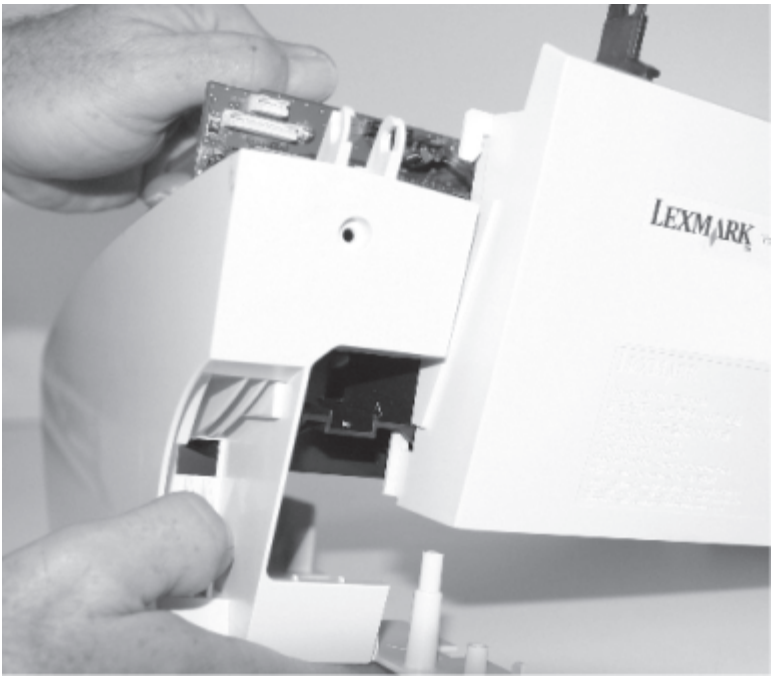
1. Remove the scanner module assembly and midframe cover.
2. Remove two screws (A) and release two latches (B).



3. Press the rear cover.

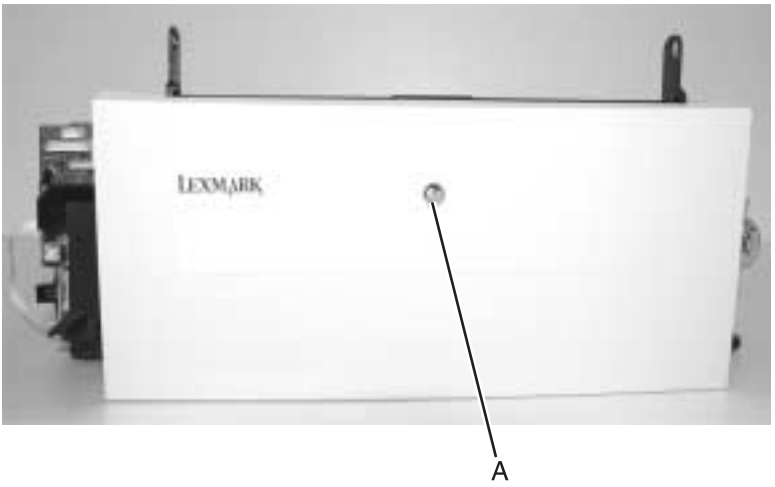


4. Slide the right cover down and remove.



Rear cover removal

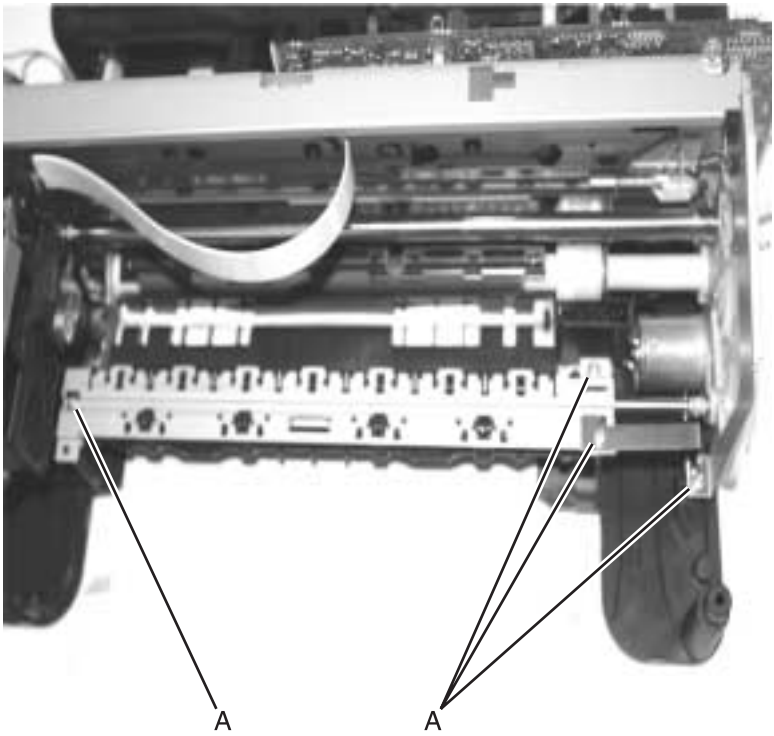
1. Remove the scanner module assembly and midframe cover.
2. Remove the left and right covers.
3. Remove screw (A) from the rear cover.



4. Remove the rear cover.

Print engine removal

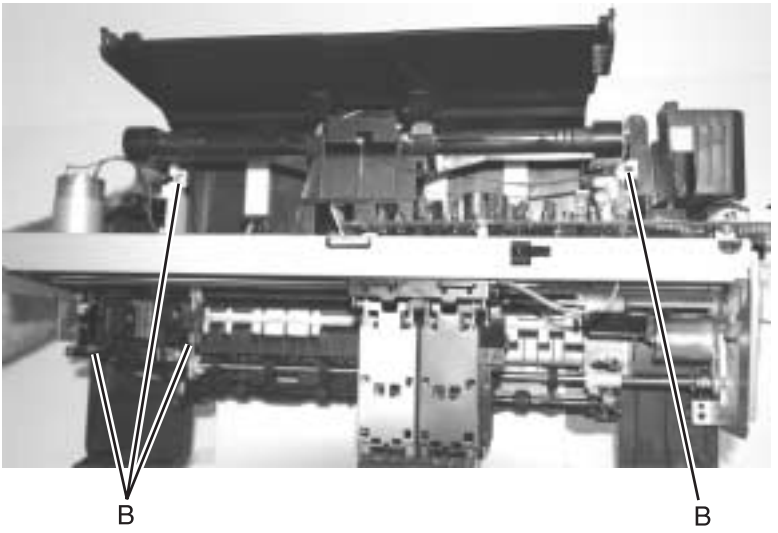
1. Remove the scanner module assembly and midframe cover.
2. Remove four screws (A) from the exit roller assembly with ground bracket.



3. Lift and remove the exit roller assembly.

4. Lift and remove the small exit roller assembly.

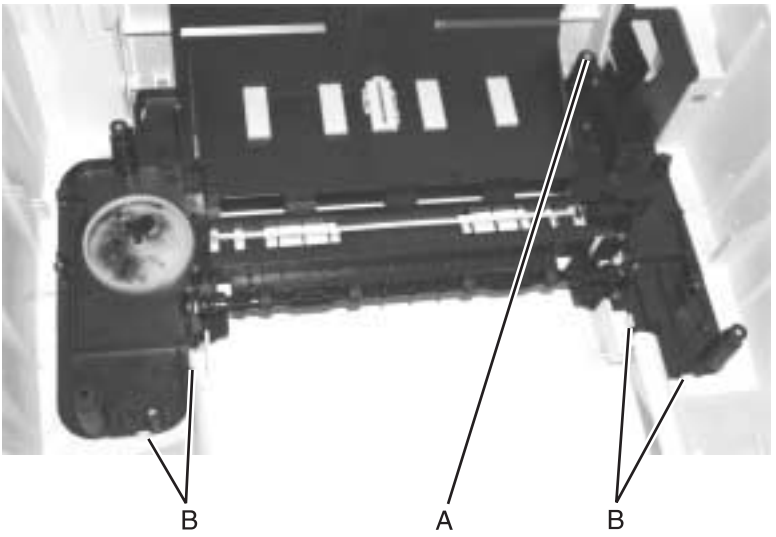
5. Remove four screws (B) from the print engine.



6. Lift and remove the print engine.

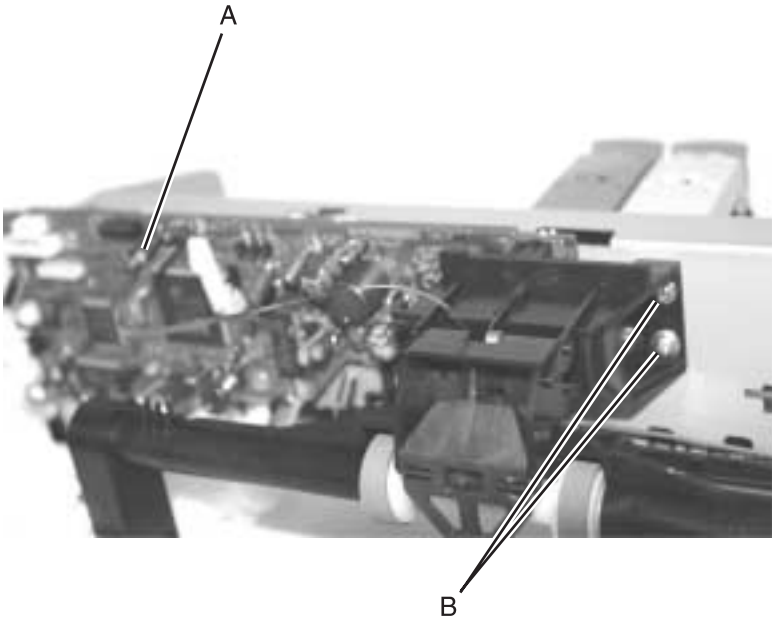
Base assembly

1. Remove the scanner module assembly and midframe cover.
2. Remove the print engine.
3. Remove one screw (A) from the base assembly.
4. Release four latches (B) and remove the base assembly.



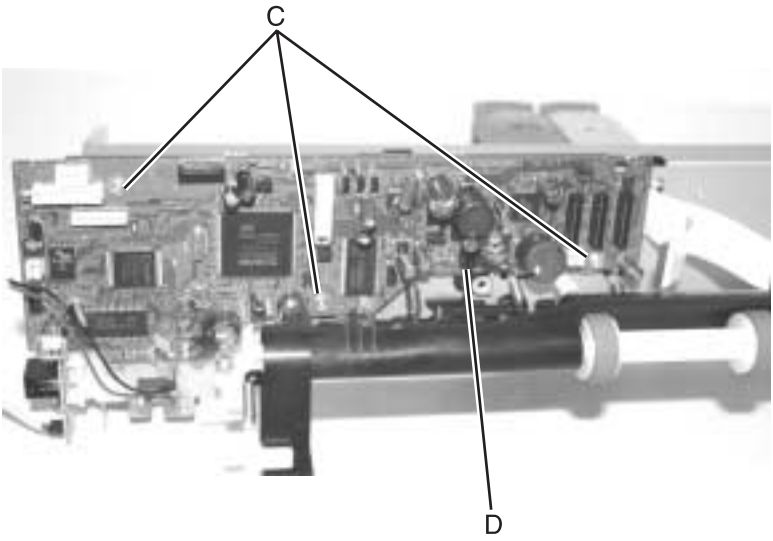
System board and sensor media removal

1. Remove the scanner module assembly and midframe cover.
2. Remove the print engine.
3. Disconnect the media sensor cable (A) from the system board.
4. Remove two screws (B) and remove the media sensor assembly.



5. Disconnect all cables.

6. Remove three screws (C) from the system board.

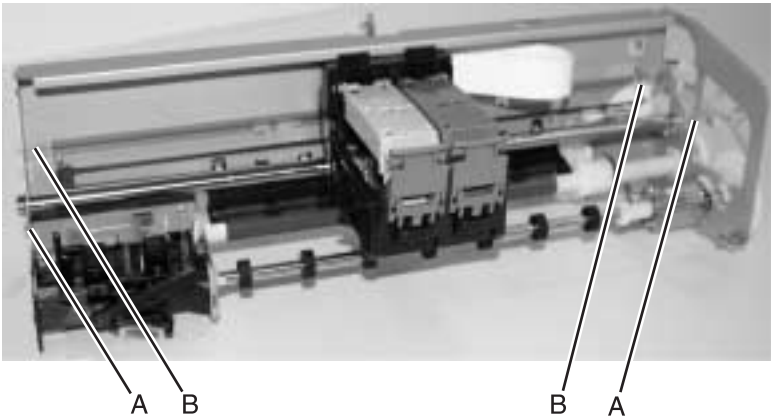


Warning: When removing the system board, be careful not to damage the end-of-forms flag (D).

7. Remove the system board.

Carrier assembly removal

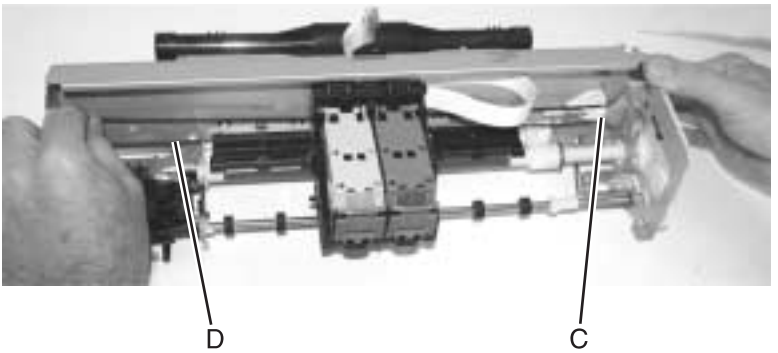
1. Remove the scanner module assembly and midframe cover.
2. Remove the print engine.
3. Disconnect the media sensor cable from the system board.
4. Remove the media sensor assembly.
5. Disconnect the carrier cables from the system board.
6. Remove the carrier shaft retainer clips (A).
7. Remove the carrier shaft through the left side.
8. Disconnect both ends of the encoder strip (B).



9. Remove the encoder strip.

Note: When installing an encoder strip, make sure that the arrow on the left end is pointing down.

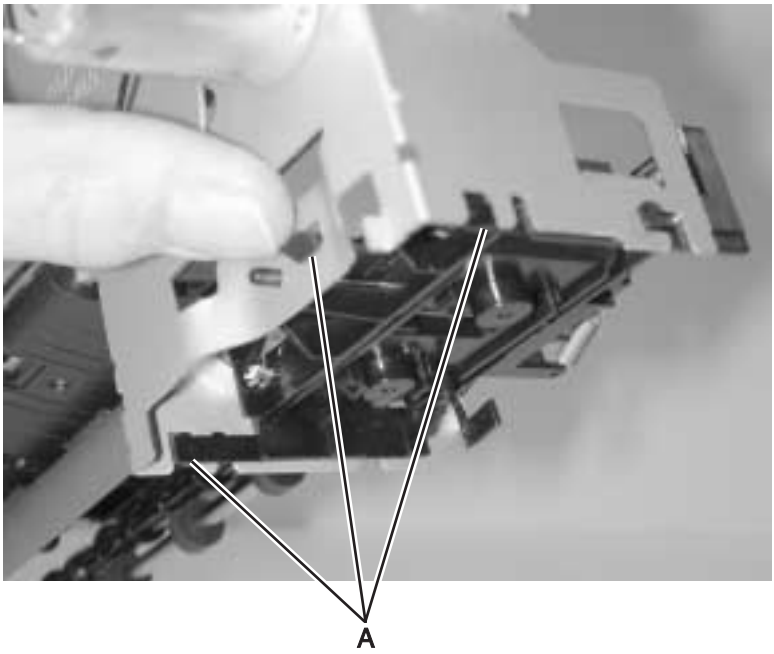
10. Press the carrier belt tensioner (C) and remove the belt (D).



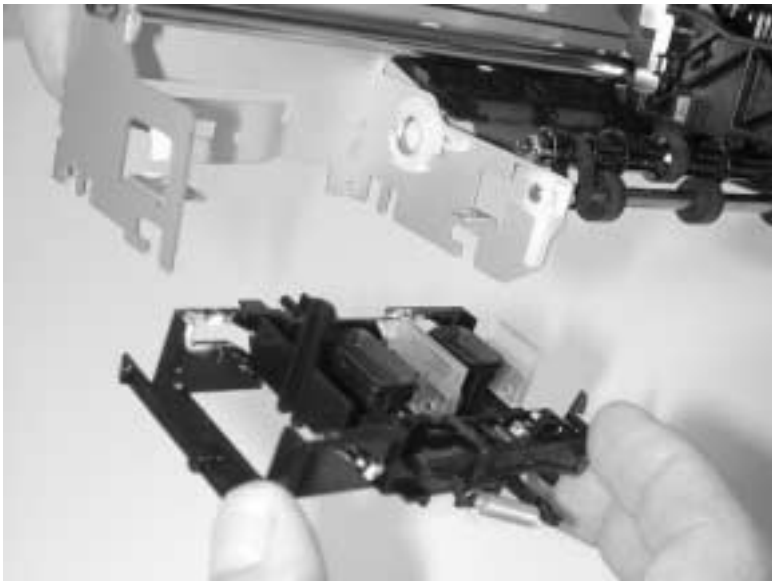
11. Lift and remove the carrier assembly.

Maintenance station removal

1. Remove the scanner module assembly and midframe cover.
2. Remove the print engine.
3. Press three clips (A).



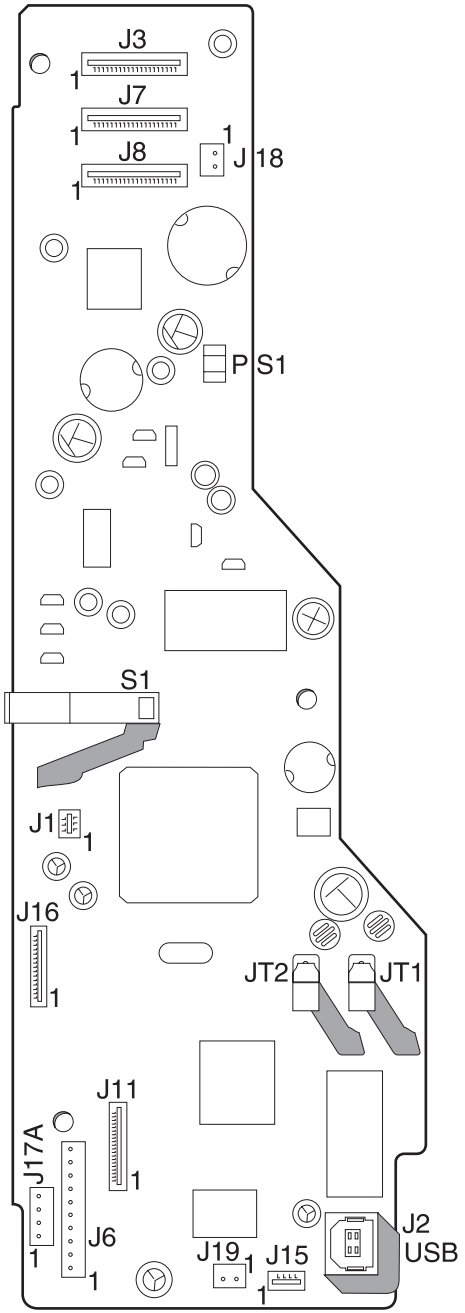
4. Slide the maintenance station forward and down to remove.



5. Locations and connectors

System board

Connectors	Description	Approximate voltage	Connector (total number of pins)
J1	Media Sensor		
J2	USB		
J3	Carrier		Ribbon 16
J6	Card Reader	Pin 1 — 9 V dc Pin 2 — 2.9 V dc Pin 7 — 3 V dc Pin 8 — 3 V dc Pin 10 — 3 V dc	10
J7	Carrier		Ribbon 16
J8	Carrier		Ribbon 16
J11	Control Panel		Ribbon 32
J15	Paper Feed Encoder Dial		Ribbon 4
J16	CIS		Ribbon 12
J17A	Scanner Motor	Pins 1,2,3,4 — 1 V dc	4
J18	Carrier Transport Motor	Pins 1 & 2 — 30 V dc	2
J19	Paper Feed Motor	Pins 1 & 2 — 30 V dc	2
PS1	End of Forms Sensor		
S1	Cartridge Door Access Sensor		
JT1	Power Supply	30 V dc	
JT2	Power Supply		


J3
1
J7
1
J8
1
1
J18
1
PS1
S1
J1
1
J16
1
JT2
JT1
J11
1
J17A
1
J6
1
J19
1
J15
1
J2
USB

6. Preventive maintenance

This chapter contains lubrication specifications. Follow these recommendations to prevent problems and maintain optimum performance.

Lubrication specifications

Lubricate only when parts are replaced or as needed, not on a scheduled basis. Use grease P/N 40X0179 to lubricate the following:

- All gear mounting studs
- The left and right ends of the large feed roller at the side frames
- The carrier to carrier frame engagement
- The carrier guide rod, and carrier guide rod bearings

Warning: Keep grease from coming into contact with any electrical components, as this may cause All-In-One damage or failure. Do not lubricate the scanner rod or bearing after replacing.

7. Parts catalog

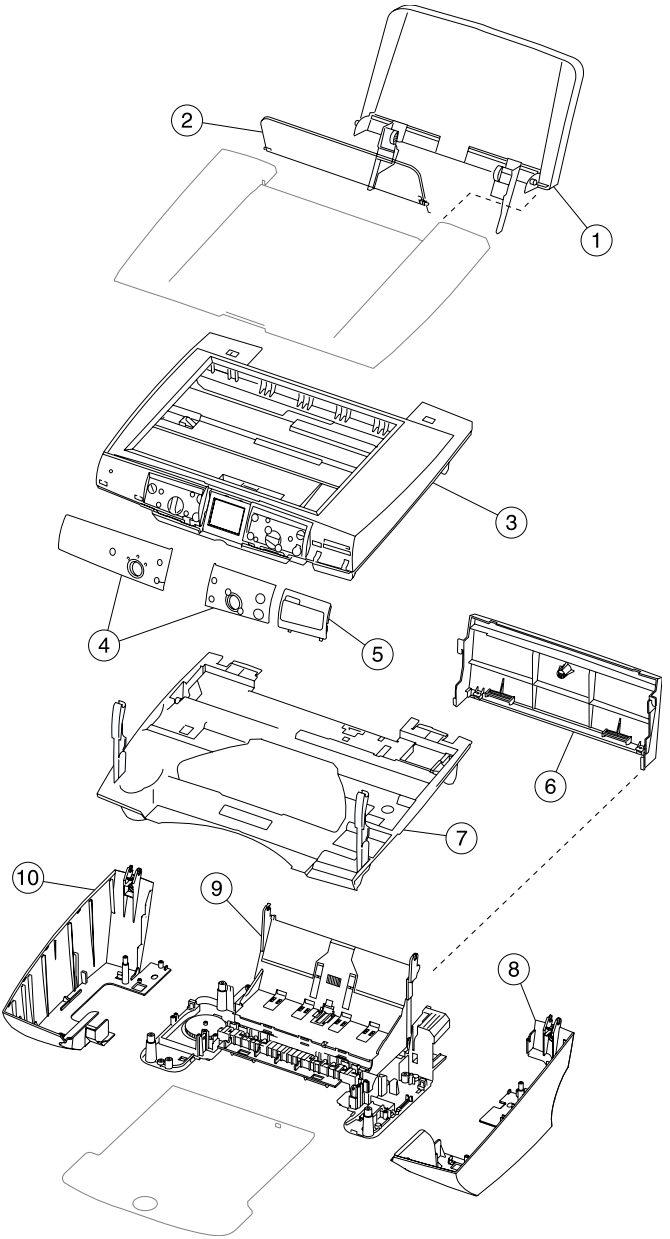
How to use this parts catalog

The following legend is used in the parts catalog:

Asm-Index	Part number	Units/mach	Units/FRU	Description

- **Asm-Index**: Identifies the assembly and the item in the diagram. For example, 2-1 indicates assembly 2 and item number 1.
- **Part number**: Identifies the unique number that identifies this FRU.
- **Units/mach**: Refers to the number of units actually used in the machine or product.
- **Units/FRU**: Refers to the number of units packaged together and identified by the part number.
- **NS**: (Not shown) in the Asm-Index column indicates that the part is procurable but is not pictured in the illustration.
- **PP**: (Parts Packet) in the parts description column indicates that the part is contained in a parts packet.

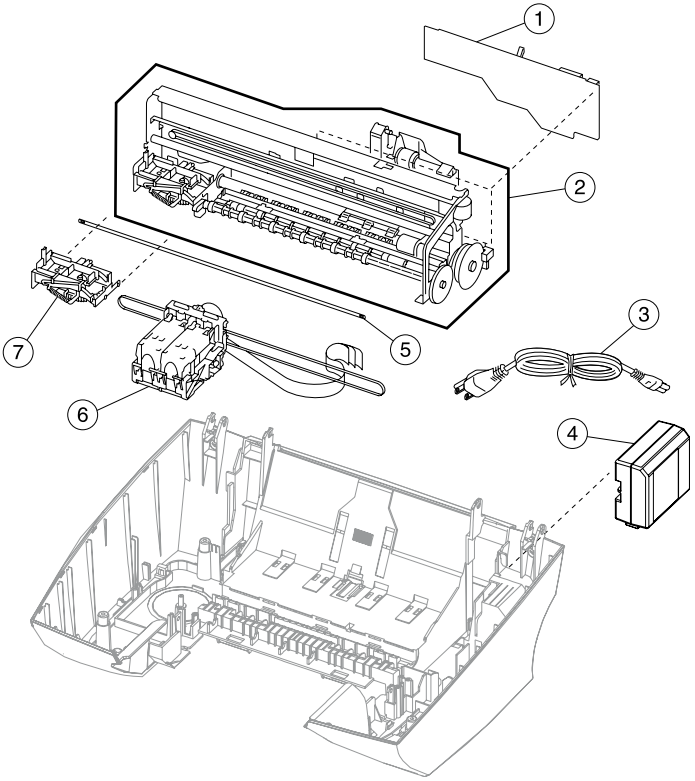
Assembly 1: Covers, scanner, and base



Assembly 1: Covers, scanner, and base

Asm-Index	Part number	Units/ mach	Units/ FRU	Description
1-1	56P3931	1	1	Support, paper with guide assembly
2	56P2772	1	1	Deflector, foreign object with spring
3	56P3932	1	1	Module, scanner assembly
4	56P3939	1	1	Cover, control panel English
4	56P3940	1	1	Cover, control panel Dutch
4	56P3941	1	1	Cover, control panel French
4	56P3942	1	1	Cover, control panel German
4	56P3943	1	1	Cover, control panel Greek
4	56P3944	1	1	Cover, control panel Italian
4	56P3945	1	1	Cover, control panel Japanese
4	56P3946	1	1	Cover, control panel Korean
4	56P3947	1	1	Cover, control panel Polish
4	56P3948	1	1	Cover, control panel Brazilian Portuguese
4	56P3949	1	1	Cover, control panel Simplified Chinese
4	56P3950	1	1	Cover, control panel Spanish
4	56P3951	1	1	Cover, control panel Traditional Chinese
4	56P3952	1	1	Cover, control panel Russian
4	56P3953	1	1	Cover, control panel Hebrew
5	56P2747	1	1	Door, card reader access
6	56P3935	1	1	Cover, rear
7	56P3934	1	1	Cover, midframe with risers
8	56P3937	1	1	Cover, right
9	56P3933	1	1	Base, printer assembly with ink sponge
10	56P3936	1	1	Cover, left
NS	7373897	1	1	Plain package B/M includes: carton, cushion set, and sealing tape USA/ Canada/LAD
NS	7373935	1	1	Plain package B/M includes: carton, cushion set, and sealing tape EMEA/APG

Assembly 2: Engine, carrier, and electronics



Assembly 2: Engine, carrier, and electronics

Asm-Index	Part number	Units/mach	Units/FRU	Description
2-1	56P3930	1	1	Board, system
2	56P3955	1	1	Engine, print assembly
3	11B5626	1	1	Cord, power USA/Peru
4	21D0325	1	1	Supply, power universal 25 W
5	56P3938	1	1	Strip, encoder
6	56P3956	1	1	Carrier, assembly with cables and belt
7	56P2617	1	1	Station, maintenance assembly
NS	1339546	1	1	Cord, power Argentina
NS	1339547	1	1	Cord, power Brazil
NS	1339558	1	1	Cord, power Taiwan
NS	11B5621	1	1	Cord, power UK/Ireland/Hong Kong
NS	11B5622	1	1	Cord, power Germany/Israel/ Russia/Poland/Spain/Asia/Chile
NS	11B5624	1	1	Cord, power Australia
NS	11B5625	1	1	Cord, power South Africa
NS	11B5629	1	1	Cord, power Japan
NS	17A0461	1	1	Cord, power Peoples Republic of China
NS	17F0399	1	1	Cord, power India
NS	11B5630	1	1	Cord, power Korea

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56P3948	Cover, control panel Brazilian Portuguese	7-3
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